Claims

1. A method of processing a blood vessel, the method comprising preparing a blood vessel for implantation in a patient and exposing the blood vessel to a physiologically acceptable solution that comprises an exogenous substrate for an SSAO enzyme.

2. The method of claim 1 wherein the exogenous substrate has a chemical formula of $R_1—X_1—NH_2$

wherein R_1 is chosen from a group consisting of H, OH, NH_2, and COOH, and

wherein

(a) X_1 is an alkyl having between one and twelve carbons,

(b) X_1 is a C_6 aromatic ring, or

(c) X_1 comprises a single C_6 aromatic ring and further comprises between one and eleven alkyl carbons.

3. The method of claim 2 wherein X_1 is CH_2.

4. The method of claim 3 wherein the exogenous substrate is present in the physiological solution at a concentration of between 0.01 and 100 millimolar.

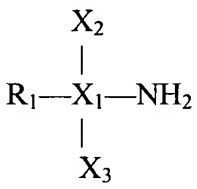
5. The method of claim 3 wherein X_1 is CH_2, and R_1 is H, whereby the substrate has the formula CH_3NH_2.

6. The method of claim 2 wherein X_1 comprises a C_6 aromatic ring.

7. The method of claim 6 wherein R_1 is H.

8. The method of claim 7 wherein the exogenous substrate is present in the solution at a concentration of between 0.01 and 100 millimolar.

9. The method of claim 1 wherein the exogenous substrate has a chemical formula of



wherein R_1 is chosen from a group consisting of H, OH, NH_2, and COOH, X_2 is chosen from a group consisting of H, OH, NH_2, COOH, and alkyls having between one and three carbons, X_3 is chosen from a group consisting of H, OH, NH_2, COOH, and alkyls having between one and three carbons, and

wherein

(a) X_1 is an alkyl having between one and twelve carbons,

(b) X_1 is a C_6 aromatic ring, or

(c) X_1 comprises a single C_6 aromatic ring and further comprises between one and eleven alkyl carbons.

10. The method of claim 9 wherein the exogenous substrate is present in the solution at a concentration of between 0.01 and 100 millimolar.

11. The method of claim 9 wherein the exogenous substrate is present in the solution at a concentration of between 0.1 and 10 millimolar.

12. The method of claim 1 wherein the physiological solution comprises a buffer having an Osmolarity in the range of about 280 to about 350 milliOsmolar that buffers the solution to maintain a pH in a range of about 7.0 to about 7.8.

13. A composition comprising an in vitro blood vessel, a physiologically acceptable solution that comprises an exogenous buffer that provides a physiological pH, and a concentration of an exogenous substrate for an SSAO enzyme, wherein the concentration of the exogenous substrate is at least great enough to relax the blood vessel exposed to the solution.

14. The composition of claim 13 wherein the exogenous substrate has a chemical formula of $R_1—X_1—NH_2$

wherein R_1 is chosen from a group consisting of H, OH, NH_2, and COOH, and wherein

(a) X_1 is an alkyl having between one and twelve carbons,

(b) X_1 is a C_6 aromatic ring, or

(c) X_1 comprises a single C_6 aromatic ring and further comprises between one and eleven alkyl carbons.

15. The composition of claim 14 wherein X_1 is CH_2.

16. The composition of claim 14 wherein the exogenous substrate is present in the physiological solution at a concentration of between 0.01 and 100 millimolar.

17. The composition of claim 14 wherein X_1 is CH_2, and R_1 is H, whereby the substrate has the formula CH_3NH_2.

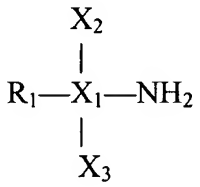
18. The composition of claim 14 wherein X_1 comprises a C_6 aromatic ring.

19. The composition of claim 18 wherein R_1 is H.

20. The composition of claim 19 wherein the exogenous substrate is present in the solution at a concentration of between 0.01 and 100 millimolar.

21. The composition of 14 wherein the exogenous substrate is present in the solution at a concentration of between 0.01 and 100 millimolar.

22. The composition of claim 14 wherein the exogenous substrate has a chemical formula of



wherein R_1 is chosen from a group consisting of H, OH, NH_2, and COOH, X_2 is chosen from a group consisting of H, OH, NH_2, COOH, and alkyls having between one

and three carbons, X_3 is chosen from a group consisting H, OH, NH_2, COOH, and alkyls having between one and three carbons, and

wherein

(a) X_1 is an alkyl having between one and twelve carbons,

(b) X_1 is a C_6 aromatic ring, or

(c) X_1 comprises a single C_6 aromatic ring and further comprises between one and eleven alkyl Carbons.

23. A medicament comprising a purified exogenous substrate for an SSAO enzyme and a pharmaceutical carrier.

24. A method of using a medicament, the method comprising administering the medicament of claim 23 to a patient.

25. The medicament of claim 23 wherein the exogenous substrate has a chemical formula of $R_1—X_1—NH_2$

wherein R_1 a member of a group consisting of H, OH, NH_2, and COOH, and

wherein

(a) X_1 is an alkyl having between one and twelve carbons,

(b) X_1 is a C_6 aromatic ring, or

(c) X_1 comprises a single C_6 aromatic ring and further comprises between one and eleven alkyl carbons.

26. A method of using a medicament, the method comprising administering the medicament of claim 25 to a patient.

27. The medicament of claim 25 wherein X_1 is CH_2.

28. The medicament of claim 25 wherein X_1 is CH_2, and R_1 is H, whereby the substrate has the formula CH_3NH_2.

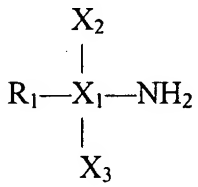
29. The medicament of claim 25 wherein X_1 comprises a C_6 aromatic ring.

30. The medicament of claim 29 wherein R_1 is H.

31. The medicament of claim 29 comprising between 1 and 10,000 milligrams of the exogenous substrate.

32. The medicament of claim 23 comprising between 1 and 10,000 milligrams of the exogenous substrate.

33. The medicament of claim 23 wherein the exogenous substrate has a chemical formula of



wherein R1 is a member of a group consisting of H, OH, NH_2, and COOH, X_2 is a member of the group consisting of H, OH, NH_2, COOH, and alkyls having between one and three carbons, X_3 is a member of the group consisting of H, OH, NH_2, COOH, and alkyls having between one and three carbons, and

wherein

(a) X_1 is an alkyl having between one and twelve Carbons,

(b) X_1 is a C_6 aromatic ring, or

(c) X_1 comprises a single C_6 aromatic ring and further comprises between one and eleven alkyl Carbons.

34. The medicament of claim 33 comprising between 1 and 10,000 milligrams of the exogenous substrate.

35. A method of using the medicament of claim 33, the method comprising administering the medicament to a patient.

36. The medicament of claim 23 wherein the medicament comprises a member of a group consisting of a pill, a granule, tablet, capsule, suspension, suppository, pessary, lotion, solution, cream, ointment, dusting powder, powder, paste, foam, aerosol, mist, /atomizing solution, surgical glue, medical tape, and patch.

37. The medicament of claim 23 wherein the carrier comprises a member of a group consisting of a starch, cellulose, malt, gelatin, talc, oil, glycol, polyol, ester, agar, pharmaceutically-acceptable salt, pharmaceutically-acceptable acid, and pharmaceutically-acceptable base.

38. A method of using the medicament of claim 23, the method comprising administering the medicament to a patient.

39. A kit for treating a patient, the kit comprising the medicament of claim 23 and instructions for use of the medicament.

40. The kit of claim 39 wherein the instructions are a member of the group of instructions consisting of written, electronic, web-interactive, email, label, brochure, slide, and handout.

41. A method of treating a patient for high blood pressure, the method comprising administering to the patient a medicament comprising a purified exogenous substrate for an SSAO enzyme and a pharmaceutical carrier to thereby lower the blood pressure of the patient.

42. The method of claim 41 wherein the exogenous substrate has a chemical formula of

$R_1—X_1—NH_2$

wherein R_1 a member of a group consisting of H, OH, NH_2, and COOH, and

wherein

(a) X_1 is an alkyl having between one and twelve carbons,

(b) X_1 is a C_6 aromatic ring, or

(c) X_1 comprises a single C_6 aromatic ring and further comprises between one and eleven alkyl carbons.

43. The method of claim 42 wherein X_1 is CH2.

44. The method of claim 42 wherein X_1 is CH_2, and R_1 is H, whereby the substrate has the formula CH_3NH_2.

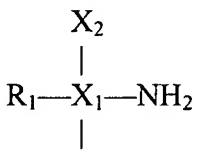
45. The method of claim 42 wherein X_1 comprises a C_6 aromatic ring.

46. The method of claim 42 wherein R_1 is H.

47. The method of claim 42 wherein the patient receives between 10-10,000 mg/kg of the exogenous substrate.

48. The method of claim 42 wherein the patient receives between 10-1,000 mg/kg of the exogenous substrate.

49. The method of claim 42 wherein the exogenous substrate has a chemical formula of



X_3

wherein R1 is a member of a group consisting of H, OH, NH_2, and COOH, X_2 is a member of the group consisting of H, OH, NH_2, COOH, and alkyls having between one and three carbons, X_3 is a member of the group consisting of H, OH, NH_2, COOH, and alkyls having between one and three carbons, and

wherein

(a) X_1 is an alkyl having between one and twelve Carbons,

(b) X_1 is a C_6 aromatic ring, or

(c) X_1 comprises a single C_6 aromatic ring and further comprises between one and eleven alkyl Carbons.

50. The method of claim 49 wherein the patient receives between 10-10,000 mg/kg of the exogenous substrate.

51. The method of claim 49 wherein the patient receives between 10-1,000 mg/kg of the exogenous substrate.

52. The method of claim 41 wherein the medicament comprises a member of a group consisting of a pill, a granule, tablet, capsule, suspension, suppository, pessary, lotion, solution, cream, ointment, dusting powder, powder, paste, foam, aerosol, mist, /atomizing solution, surgical glue, medical tape, and patch.

53. The method of claim 41 wherein the carrier comprises a member of a group consisting of a starch, cellulose, malt, gelatin, talc, oil, glycol, polyol, ester, agar, pharmaceutically-acceptable salt, pharmaceutically-acceptable acid, and pharmaceutically-acceptable base.

54. A kit for treating a patient, the kit comprising instructions for use of a medicament in treating a patient for high blood pressure according to the method of claim 41.

55. The kit of claim 54 wherein the instructions are a member of the group of instructions consisting of written, electronic, web-interactive, email, label, brochure, slide, and handout.